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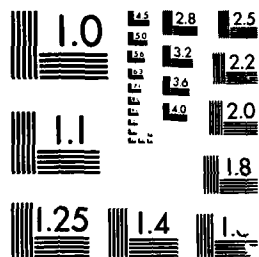
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TACTICAL DECEPTION CAPABILITIES IN THE HEAVY DIVISION--
MYTH VERSUS REALITY

by

Major Michael B. Weimer
Infantry

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School of Advanced Military Studies
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas

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development and use of deception from history. Theoretically and historically-derived capabilities to deceive at the tactical level are contrasted to current U.S. and Soviet doctrine. This background in theory, history and doctrine is then compared to contemporary evidence of U.S. tactical deception efforts of divisions employed in European REFORGER exercises. The final sections draw conclusions and implications concerning tactical deception in the U.S. Army, focusing upon the areas of doctrine, training, resources and command and staff processes.

This study concludes there is a significant gap between what should be and what actually is a U.S. division's capability to perform tactical deception in the defense. Doctrinally, although the new FM 90-2 (draft) makes major improvements, our Army lacks an Army-level proponent for deception. Furthermore, deception doctrine is inconsistently incorporated into our general doctrine, and the relationship between surprise, deception and OPSEC remains unclear. Moreover, our doctrine does not specifically establish deception standards or capabilities in which divisions must be proficient. Second, the training and assignment of the 17-man deception element to division and corps will not be completed for two years. The study concludes that there are serious shortcomings of incorporating deception instruction within TRADOC institutions, tactical exercises and wargames at division level. Deception is not included in unit ARTEPS, METLs, or training guidance. Third, although the Army specifies future TAC-D technology and resource needs, this equipment is not currently available. Finally, the command and staff process fails to integrate deception early in the planning and estimate phases for total incorporation into tactical operations. The deception elements, moreover, strain this integration by being assigned to the CEWI battalion rather than the deception proponent (G-3,HHC).

This study recommends the Army review its deception doctrine for sufficiency by appointing an Army level proponent. From there, it should focus its efforts and resources to improve training of deception elements, division commanders and staffs for deception to regain prominence as an effective force multiplier.

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MYTH VERSUS REALITY**

by

**Major Michael B. Weimer
Infantry**

**School of Advanced Military Studies
U.S. Army Command and General Staff College
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ABSTRACT

**TACTICAL DECEPTION CAPABILITIES IN THE HEAVY DIVISION--
MYTH VERSUS REALITY** by Michael B. Weimer, USA, 55 pages.

This study examines tactical deception capabilities in the U.S. Army. The research question asks, "what should be the capabilities of the heavy division in Europe to perform tactical deception in defensive operations?"

The study first analyzes the theory of deception from the writings of Mao, Sun Tzu, Clausewitz, Liddell Hart and Barton Whaley to determine what theory says our capabilities should be. Next it traces the U.S. Army's development and use of deception from history. Theoretically and historically-derived capabilities to deceive at the tactical level are contrasted to current U.S. and Soviet doctrine. This background in theory, history and doctrine is then compared to contemporary evidence of U.S. tactical deception efforts of divisions employed in European REFORGER exercises. The final sections draw conclusions and implications concerning tactical deception in the U.S. Army, focusing upon the areas of doctrine, training, resources and command and staff processes.

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SECTION ONE - INTRODUCTION

"All warfare is based upon deception, [made] possible by adopting all kinds of measures to drive the enemy into making erroneous judgments and taking erroneous actions, depriving him of his superiority and initiative."¹ --Sun Tzu

Just as Sun Tzu recognized the value of deception several thousand years ago, so the Joint Chiefs of Staff (JCS) sees its value today:

Military deception has proven to be of considerable value...and a fundamental consideration in the development and implementation of military strategy and tactics. Deception has been used to enhance, exaggerate, minimize or distort capabilities and intentions; to mask deficiencies; and to otherwise cause desired appreciations where conventional military activities and security measures were unable to achieve the desired result.²

Tactical deception, distinguished from strategic deception, is important in modern warfare to gain tactical advantage through surprise. Deception allows the defender to "sequence the battle" in a manner in which he wants the enemy to see it. It allows him to portray false dispositions and capabilities that mask his vulnerabilities, and thereby reduce the attacker's advantage of initiative (time and place of battle). It also creates conditions which may allow him to mass his forces at a decisive time and location. Moreover, deception can cause the enemy to waste his valuable resources by inducing him to attack or defend fraudulent targets and by delaying and disrupting his decisions.

Evidence in casualty ratios between victor and loser suggests that deception is closely associated with success in battle. In an extensive two-volume study on deception encom-

passing 122 battles during the period 1914 through 1968, Barton Whaley linked deception with casualty ratios and concluded:³

CATEGORY	NO. CASES	CASUALTY RATIOS
Surprise with deception	59	1:6.3
Surprise without deception	20	1:2.0
No surprise with deception	5	1:1.3
No surprise without deception	40	1:1.1

FIGURE 1

The purpose of tactical deception in the defense is to keep the enemy

reacting to incorrect friendly dispositions, intentions, and capabilities, thus inducing him to take actions favorable and exploitable to friendly operations.⁴ The use of a trick or stratagem permits the intended victim to make his own mistakes, which, combined in a single result, suddenly change the nature of the situation before his very eyes.⁵

Despite the undeniable significance and linkage between effective deception and success on the battlefield, the U.S. Army's poor performance in developing deception doctrine and adequately organizing, resourcing and training units and staffs challenges our capability to conduct effective deception. Until recently, U.S. deception doctrine manuals admit the Army had

deemphasized and deinstitutionalized the use of deception to support the planning, direction, and conduct of combat operations during peacetime. As a result, many of the deception-related skills have been forgotten, or failed to be incorporated into our warfighting doctrine.⁶

This state of affairs can be attributed to several myths and factors. Deception is commonly regarded as a trivial aspect of war and not for real soldiers. Some critics think that surprise is all luck and that technology has rendered deception in-

feasible. These attitudes explain the reluctance of commanders to devote scarce combat resources to deception and deception's low priority on the budget.⁷

For clarity, operational security (OPSEC), deception and surprise must be carefully defined. OPSEC establishes the base of secrecy necessary to hide real operations and identifies opportunities to convey controlled information. Deception, however, portrays falseness through acts intended to mislead the enemy. Surprise is that instance where a military action by one antagonist has not been predicted or anticipated by the victim.

This study seeks to answer the question, "What should be the capabilities of the heavy division in Europe to perform tactical deception in the defense?" Europe represents a "come as you are" war. Success anticipated on the future battlefield, as in the past, is linked to the preparations for battle; i.e. training, doctrine and equipment. The initial activities of that war will primarily include defensive operations.

Section Two analyzes deception theory from the writings of Sun Tzu, Clausewitz, Liddell Hart, and Barton Whaley to determine what theory suggests that our deception capabilities should be. Section Three traces the U.S. Army's development and use of deception to determine the historically-derived capabilities of units. Section Four examines our current doctrine to determine what our current capabilities should be. Section Five illustrates contemporary examples of tactical deception by divisions involved in REFORGER exercises. Section Six draws conclusions from a

comparison between "what should be" and "what is", and finally, Section Seven discusses the implications for the Army today.

SECTION TWO - THEORY

Sun Tsu, Mao Tse Tung, Liddell Hart, and Barton Whaley generally agree about the purpose of deception. However, their opinions vary considerably in its significance and application to warfighting.

Sun Tsu emphatically endorsed deception and surprise as key principles of war -- the veritable foundation of warfare.

War demands deception. All warfare is based upon deception. Therefore when capable, feign incapacity; when active, inactivity. When near, make it appear you are far away; when far away, that you are near. Offer the enemy a bait to lure him; feign disorder and strike him. Anger his general and confuse him. Pretend inferiority and encourage arrogance. These are the strategist's keys to victory.⁸

Mao suggested one should be capable of deceiving the enemy physically (locations, intentions and abilities) and mentally. However, "simply creating shapes or illusions, and concealing himself from the enemy is not enough --the enemy's leaders must be confused."⁹ Therefore, Mao believed one must be capable of enticing or confusing the enemy commander, perhaps by offering him something consistent with his desires, plans and methods.

Clausewitz also believed in the value of deception as a major weapon of the tactical defense. He clearly linked deception with surprise by associating it with the "universal desire to achieve numerical superiority. [Surprise is] more or less basic to all operations, for without it superiority at the decisive

point is hardly conceivable."¹⁰ Surprise, he suggested, requires accurate intelligence, secrecy and speed, and adequate resources.

Intelligence (along with danger, physical exertion and friction) "coalesce[s] to form the atmosphere of war, and turn[s] it into a medium which impedes activity."¹¹ Accurate information about the enemy is necessary to devise a deception plan which is plausible to the enemy since "most intelligence is false, and the effect of fear is to multiply lies and inaccuracies."¹² With accurate intelligence, the best method of deceiving the enemy is through his physical senses rather than reason because "the difficulty of accurate recognition constitutes one of the most serious sources of friction in war."¹³ In short, Clausewitz drew a clear parallel between the friction of the battlefield as a result of false intelligence and erroneous judgments and emphasized the critical linkage that the mind (senses) plays in deception.

Additionally, Clausewitz believed secrecy and speed were the two factors which produced surprise. This implies the deceiver must disguise his true intention and dispositions and employ maximum speed to exploit that disguise. Clausewitz prioritized surprise at the tactical level since "surprise is more easily carried out in operations requiring little time."¹⁴

Clausewitz maintained that effective deception required the investment of inordinate resources, and therefore involved considerable risk. The expenditure of

time and effort, and the costs increase with the scale of the deception. Normally, they call for more than can

be spared....It is dangerous, in fact, to use substantial forces over any length of time merely to create an illusion; there is always a risk that nothing will be gained and that the troops deployed will not be available when they are really needed.¹⁵

He believed this explains why generals "mindful of this sobering truth, lose the urge to play with sly mobility."¹⁶

Recognition of risk and desperation led Clausewitz to question Mao's optimism. Clausewitz believed deception has limited value and prominence.

While the wish to achieve surprise is common,...indispensable, and...never completely ineffective, it is equally true that by its very nature surprise can rarely be outstandingly successful. It would be a mistake...to regard surprise as the key element of success in war.... Attractive in theory, in practice it is often held up by the friction of the whole machine.¹⁷ Its success is often due to favorable circumstances beyond the control of the commander, and frequently at the mercy of chance.¹⁸

He further stated that history had rarely seen the results of generals "opposing one another in craft, cleverness, and cunning" figure prominently in the history of war and that cases in which surprise led to decisive results were rare.¹⁹ He maintained that false plans and orders designed to confuse the enemy "have so little strategic value that they are used only if a ready-made opportunity presents itself, not to be considered as a significant independent action at the disposal of the commander."²⁰

Perhaps Clausewitz's cautious attitudes concerning deception were a product of Napoleonic warfare. Intelligence pertaining to the enemy was communicated by trusted couriers, not sophisticated electronic equipment. Single engagements were decisive, few

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sequels and countermeasures were required, and large compact armies were hard to disguise and hide.

Liddell Hart also endorsed the value of deception. However, he linked the theory of deception with maneuver through the idea of the indirect approach.

So in war, the way to avoid what is strong is to strike what is weak. Thus, to take a long, circuitous route, after enticing the enemy out of the way, and though starting after him, to contrive to reach the goal before him, shows knowledge of the art of deviation. He will conquer who has learnt the artifice of deviation. Such is the art of manoeuvring.²¹

Liddell Hart believed

it is better to disarm the enemy rather than to attempt his destruction by hard fighting. Therefore, a strategist should think in terms of paralyzing, not of killing. The indirect approach is the most effective way to upset the enemy's balance, psychological and physical, thereby making his overthrow possible.²²

Maneuvering to upset the enemy's equilibrium is analogous to jujitsu, where the "enemy is first lured into a false move, and his own effort is turned into the lever of his overthrow."²³ Liddell Hart faulted most armies for failing to seek disruption of the enemy's equilibrium. He felt they concentrated too much on not making mistakes rather than making the enemy make mistakes.²⁴ He firmly believed, "Whatever the form, the effect to be sought is the dislocation of the opponent's mind and dispositions."²⁵

In summary, Liddell Hart agreed with Mao in the importance and relevance of deception. He believed "the dislocation of the enemy's psychological and physical balance has been the vital prelude...in almost every decisive battle in history...."²⁶ He paralleled the theory of Clausewitz which required the deceiver

to solve two problems: dislocate the enemy and exploit the advantages caused by that dislocation. One precedes and one follows the actual blow. However, "to mystify the enemy was not enough; he must be distracted, which implies combining deception of the enemy's mind with deprivation of his freedom to move ... with the distention of his forces."²⁷

Similarly, Barton Whaley, a current leader in deception theory, focuses upon the psychological balance of the enemy, reinforcing the theory that the "senses" are the appropriate target for deception efforts. Because deception is a misperception, he postulates all deception should occur in the brain of the person deceived. Deception takes place in "the eye of the beholder." We are not deceived by others, we only deceive ourselves -- the deceiver only attempts to induce deception.²⁸

For these reasons, Whaley suggests the deceiver be capable of both dissimulation (hide the real) and simulation (show the false), each of which includes three subcomponents.

DISSIMULATION (Hiding the Real)	SIMULATION (Showing the false)
MASKING--making things invisible.	MIMICKING--imitation.
REPACKAGING--disguising things.	INVENTING--displaying another reality.
DAZZLING--confusing.	DECOYING--diverting attention.

FIGURE 2

In the same vein that dissimulation and simulation are opposites, Whaley also believes the subcomponents of each are also opposites. For instance, in the above figure, masking has as its counterpart mimicking.

Whaley also suggests that within these two categories of deception, the subcomponents possess varying degrees of effectiveness, arranged in the above figure in descending order. Therefore, masking would be the most effective method of dissimulation. If masking failed to convert sufficient invisibility to the real object, the deceiver can then resort to repackaging to disguise it. If that fails, then the deceiver can resort to dazzling as a last ditch effort to confuse the target about some of the real object's characteristics.²⁹

Finally, Whaley contributes to the theory and application of deception by suggesting the deceiver must be able to plan a deception following a logical procedure. In Figure 3 below, note the similarities between his guidelines (right) to the deception planning process contained in the Army's current version of deception doctrine (FM 90-2, Battlefield Deception).

FM 90-2 Format	Whaley's procedures
SITUATION	Know the strategic goal.
DECEPTION OBJECTIVE	Decide how you want the target to react (do, not think).
DESIRED PERCEPTION	Decide what you want the target to perceive.
DECEPTION STORY	Decide what to hide, and what to show. Analyze the pattern of the real and false distinguishing characteristics.
DECEPTION PLAN	Design the desired effect with the method -- explore means.
EXECUTION	Perform the deception.
SUPERVISION	Seek feedback to insure success. ³⁰

FIGURE 3

In summary, the deception theories of Mao, Clausewitz, Liddell Hart and Whaley suggest a modern unit must possess certain deception capabilities. First, they must possess the

attitude that deceiving the enemy to gain advantage is important and possible. However, this attitude must be tempered with caution since the results may vary from minimal to decisive and be difficult to evaluate. Second, the unit must be capable of gaining accurate intelligence of the enemy. Third, the unit must be capable of hiding the real by secrecy, concealment and dissimulation in concert with portraying the false. Fourth, units must risk the investment of resources, particularly time. Finally, units must be capable of devising and following a logical deception plan.

Theory, however, is not easily put into practice. History proves American deception at the tactical level is no exception.

SECTION THREE - HISTORY

From pre-World War II through the exploits of the 23d Special Troops during WW II and on into Viet Nam, historical evidence of American units performing deception is rare.³¹ Deception has been infrequently and intermittently used, relegated to a cycle of loss and reinvention, and often the tool of exceptionally imaginative leaders who considered it a "witty hors d'oeuvres before battle."³² Yet, when the U.S. put its mind and resources into deception operations, they were often successful. For the most part, however, skepticism and unpreparedness, combined with rapidly changing technology, traditionally hindered the capabilities of units to perform deception operations.

Negative attitudes, combined with the misunderstanding of the nature of surprise and deception, characterize the pre-WW II

period. Deception had not yet taken root in American Army doctrine despite successful British deception efforts during WW I. The Americans didn't take it seriously, and regarded deception as "weapons of despair of the have-not nations,... not for us."³³ As an indication of this tendency, the indifference and dislike of camouflage was gradually overcome with the eventual fielding of camouflage material and manuals, yet there was little actual interest, little training and less money dedicated to it.³⁴

Then Colonel George C. Marshall, Assistant Commandant of the Infantry School, reputed to be the man who had designed the first and most elaborate U.S. deception effort in WW I, directed that Infantry In Battle be written in 1934. Drawn entirely on historical examples and experiences, the chapter on surprise is excellent, but only vaguely implies a connection with deception.³⁵ It does stress, however, that surprise can be gained by both the attacker and defender, and should "be striven for by all units regardless of size, and in all engagements, regardless of importance."³⁶

The reluctant attitude concerning deception continued until the outbreak of WW II, but the British deception successes in North Africa (Sidi Barrani, Tobruk, and El Alamein) finally persuaded the Americans to recognize the tactical benefits and advantages of tactical deception.³⁷ During the Italian campaigns, the Americans found that many of the strategic principles of deception directly applied to the tactical levels as well, with two notable exceptions. First, tactical deception plans had to be

developed within drastically reduced planning times compared to strategic plans. Secondly, deception planners found it was much more difficult to deceive enemy ground surveillance and patrols than rapidly moving aerial reconnaissance pilots.³⁵

The Americans, finally convinced of the advantages of a centralized organization for tactical deception, formed the 23d Special Troops after the British example. It consisted of an HHC, the 603d Engineer Camouflage Battalion, the 406th Engineer Construction Company and the 3232d Signal Service Company -- a total of 83 officers and warrants, and 1023 enlisted.³⁹ Their SOP included three general methods of tactical deception -- radio, decoys and sonic. Radio deception was determined the most important for feeding false information concerning positions, troops, supplies and orders to the Germans.

In an exhaustive historical research effort on deception, Barton Whaley uncovered 11 instances of deception at the division level (approx 5000 troops).⁴⁰ Yet, none of these included American mechanized forces of Division size defending in a European environment.⁴¹ However, the 23d Special Troops participation in Operation Bettembourg (15-22 September 1944) involved deception efforts closely resembling a modern division's effort. The 23d mission, in concert with the XX Corps attack on Metz, involved the portrayal of the 6th Armored Division and reinforcement of the 43d Cavalry Squadron over a 50 mile gap to prevent the enemy from reinforcing Metz. Spoof radios, decoys, sonic deception and special effects were employed. The troops,

provided with a "history" of the 6th Armored Division, completed the ruse through effective role-playing in nearby towns. Although only half the 23d was employed, the success of Operation Bettembourg claimed partial responsibility for the German nickname given to the 6th Armored Division -- the "Phantom Division."⁴²

The history of the 23d Special Troops suggests that deception capabilities of the defender focus upon two areas -- masking the real organization and misleading the attacker as to the disposition, strength and order of battle of the defender. Specifically, their missions required them to capture the atmosphere of the unit they were portraying, replicate the sonic signature of several types of tactical maneuver units (to include artillery, tanks, bridging operations, motor convoys and assault boats) and replicate the electronic signature of nine different command and control centers, ranging from one combat infantry team to an entire division headquarters.⁴³ In addition, regular soldiers assisted deception efforts by manning false weapons sites (artillery, anti-air), simulating tracked vehicle movement and increasing reconnaissance patrols and signal traffic.⁴⁴

Despite these capabilities, four major problems contributed to the 23d's marginal success rate of 10 out of 21 operations: the lack of doctrinal or technical manuals; lack of training, which resorted to on-the-job experience and trial and error; a "stepchild" attitude by field commanders too skeptical to allocate precious resources to "gimmicks"; and poor coordination of the 23d's tasks with tactical missions and units.

After WW II, Eisenhower urged the Army to recognize the importance of tactical deception.

...no major operations should be undertaken without planning and executing appropriate deception measures. As time goes on...there is a danger that [cover and deception] may in the future not be considered adequately in our planning. I consider it essential that the War Department should continue to take those steps that are necessary to keep alive the arts of ... cover and deception and that there should continue in being a nucleus of personnel capable of handling these arts in case an emergency arises.⁴⁵

The Korean War did not witness the perpetuation of tactical deception organizations, doctrine or tactics as Eisenhower desired. Units in Korea relied upon superior firepower, and left surprise and deception to the enemy. American units stuck to the roads and moved during the day while their North Korean and Chinese counterparts succeeded at night using the low ground and stealth to bypass U.S. strongpoints.⁴⁶ Rumors of peace and the establishment of the demarcation line resulted in defensive operations limited to patrolling, raids, and counterattacks. This static mindset rendered deception unimportant.

The advent of the atomic bomb perpetuated this mindset. Along with the total restructuring of the American Army came the further assumption that atomic wars would have little purpose for tactical deception. Therefore, tactical deception doctrine and training received minimal attention.

The U.S. Army's infatuation with firepower, technology and materiel superiority carried over to the Vietnam war and again overshadowed the value of tactical deception. Perhaps at the

root of this attitude was the American culture. Based on values and honesty, it relegated deceit as an enemy tactic and characteristically "un-American", a product of the inscrutable Oriental mind. Barton Whaley summarized and confirmed our deep-seated prejudices against deception when he said:

...the tendency in the 19th and 20th Century has been for the great majority of soldiers to either reject stratagem entirely or to avoid it by passing such an 'unsoldierly' task to the limbo of the secret services along with psychological warfare, covert operations, and the other black arts. [This tendency]... has almost certainly inhibited the effective integration of stratagem with routine operations planning....this might well prove to have been a contributing factor in the slow and still complete adoption of stratagem in U.S. military doctrine.⁴⁷

Through the late 1970's, Field Service Regulations briefly commended "tactical cover and deception" to the commander, yet gave very little practical advice.⁴⁸ The reader was referred to classified manuals for detailed discussions of tactical cover and deception. Despite possession of the best technical capabilities, as of 1968 Americans still rated surprise only eighth in priority of nine "principles of war", having lowered it to that position since 1962.⁴⁹

The beleaguered history of tactical deception continues through today. Deception operations are rarely attempted in division-size tactical operations in Europe. Likewise, our current inventory of wargaming training aids omits deception in the exercises. It is no surprise that no U.S. division mentions deception in their training guidance or mission essential task

lists (METLs). Nonetheless, history, seemingly indifferent to winning or losing, has particular relevance to deception today.

Historical implications: The story of America's use of deception in history suggests the Army possess certain capabilities relating to doctrine, training, command and staff procedures and resources. Doctrine must stress the use of deception as an important force multiplier which results in reduced casualties, surprise, increased force effectiveness, victory and territorial gains.⁵⁰ This applies particularly to the defense where surprise is needed most.⁵¹ The organization and training of specially skilled deception elements are essential to gain the benefits deception affords. Activities of these units must be fully integrated into the tactical plan. Moreover, these units must know enemy practices (intelligence), as well as friendly unit profiles. Finally, special resources (decoys) must be available and of sufficient quality to simulate real items of equipment and additional manpower and equipment must be utilized and synchronized with the deception plan. Resources required in deception operations often demand sophisticated technology.

Technological impacts: Critical breakthroughs in technology have consistently influenced the tide of history, deception being no exception. Perhaps the most important is in the field of detection capabilities. Most armies possess passive night vision capabilities and, like the U.S., are rapidly advancing toward thermal imagery. Turning night into day, as well as increasing the range and clarity of images, makes "portraying the false"

much more difficult. Today, a deceiver must not only replicate the size and shape of tactical equipment, but also thermal and active and passive radar signatures. Conversely, there have also been rapid improvements in thermal suppression materials for camouflage nets, engine generators and radar countersurveillance. The radar screening effect of the standard camouflage net is effective beyond the point of vulnerability to the current radar threat.

Technology has also rapidly advanced our capability to fabricate "dummies" for items of equipment such as the M1 tank and the Pershing 2 Missile. Prototype decoys for logistics sites and critical command nodes have also been developed. Although expensive, they are designed for employment by few personnel with limited materiel resource investment.

The proliferation of satellites, capable of day and night resolution within a few meters coupled with instantaneous feedback to a tactical headquarters, enhances the confirmation of enemy action or inaction. It also changes the time span within which tactical deception must operate and within which the enemy can react.

Communications equipment which employs frequency hopping characteristics makes it very difficult to jam, and also raises the question of compatibility with target sensors. Today, a single "station" can replicate a "headquarters" which normally has many signal emitters.

In summary, the history of deception in the American Army is hit and miss at best. Although we attempted to gear up when necessary, the results of deception operations were marginally and inconsistently successful. Technology, however, has not decelerated, and has significantly complicated deception techniques. History consistently demonstrates that the technology of the deceiver must be compatible with the deceived, and technological advantages are quickly neutralized with counter technologies. Only an effective deception doctrine, understood and applied by all tactical units, can remedy this situation. Does our doctrine measure up?

SECTION FOUR - DOCTRINE

FM 100-5, Operations, the Army's "fundamental expression of its approach to fighting"⁵² and FM 90-2, Battlefield Deception articulate Army deception doctrine. They define the concept and role of tactical deception, and suggest general capabilities expected of units performing tactical deception.

AirLand Battle is a maneuver oriented doctrine which recognizes the importance of deception to enhance maneuver. The doctrine states, "successful tactical maneuver depends on skillful movement along indirect approaches. It may also use deception and concealment to cause an enemy to move."⁵³ Furthermore, our doctrinal manuals fuse deception into the command, control and communications countermeasures (C3CM) strategy of AirLand Battle. "Battlefield deception employed in concert with the three other components of C3CM -- jamming, OPSEC, and

physical destruction --is designed to influence, degrade, or destroy enemy C3 capabilities while protecting friendly C3..."⁵⁴ Aimed, therefore, at the enemy decision apparatus, deception operations must be able to

portray false friendly intentions, capabilities, and dispositions, which can cause the enemy to mass or disperse, hold in place or commit, commit prematurely or too late, adopt inappropriate force configurations, or adopt a style of maneuver inappropriate to friendly operations.⁵⁵

The two primary roles of tactical deception (TAC-D) are to achieve a level of competence among Army elements that will enable them to defeat hostile surveillance, target acquisition, and intelligence gathering activities on the battlefield...and create false impressions about friendly employments, capabilities, and intentions, achieving a condition advantageous to friendly forces.⁵⁶

The Army recognized that the current (1978) version of FM 90-2, Deception, did not coincide with the stated roles for deception. Critics faulted the manual for failure to reflect current doctrinal changes to AirLand Battle. It lacked tactical historical examples and failed as a practical guide for field commanders in terms of deception planning and execution. It also failed to ground itself in applicable theory, psychological and social science research and principles.⁵⁷ In the interim between the old and new versions of FM 90-2, the Army published FC 90-2, Deception Operations Planning Guide. While it fixed many of the shortcomings, it contradicted the operational and tactical levels of deception planning and execution, suggested that corps plan while divisions execute TAC-D and confused the relationship between OPSEC and TAC-D.⁵⁸ Even the new FC 71-100, Armored and

Mechanized Division and Brigade Operations fails to address deception adequately at the tactical level, particularly in Chapter Six (defense) and Chapter Four, Section XII (OPSEC).⁵⁹

The new coordinating draft of FM 90-2, expected to be approved and distributed late 1987, is a major improvement. It aligns deception doctrine and practice with AirLand Battle doctrine, clearly distinguishes between the operational and tactical application of deception and suggests general deception capabilities for tactical application.

FM 90-2 (draft) reveals a close association between deception and the battlefield framework. Deception in close operations consists of supporting attacks (feints) coupled with the proper positioning of reserves to exploit or shift priorities. To enhance deep operations, deception should facilitate exposing rear forces to our attack, facilitate their commitment at a time and place irrelevant to the close fight and delay, disrupt or divert them. In the rear battle, deception operations primarily focus upon survivability.⁶⁰

Although our doctrine is offensively oriented, it stresses deception in defensive operations as well. Deception conceals the true locations of forces in the battle area, thus minimizing our losses and forcing the enemy to expend his firepower and intelligence efforts unprofitably. It also misleads the enemy, causing him to attack or deploy unwisely.⁶¹ Finally, in concert with military theorists such as Liddell Hart, U.S. Army deception doctrine emphasizes that inertia is the ally of deception. It is

easier to convince the enemy to continue his course of action rather than change it. The best method is to create ambiguity about friendly intention sufficiently to create and exploit weakness.

In defining the relationship between operational and tactical deception operations, FM 90-2 (draft) states:

operational plans are designed to facilitate the conduct of campaigns and major operations by "setting the terms of battle" before battles and engagement occur....[while] tactical deception plans are designed to exploit the tactical situation being immediately confronted by the tactical commander.⁶²

Because of this relationship, tactical level deceptions will normally be derivatives of operational deception plans.⁶³

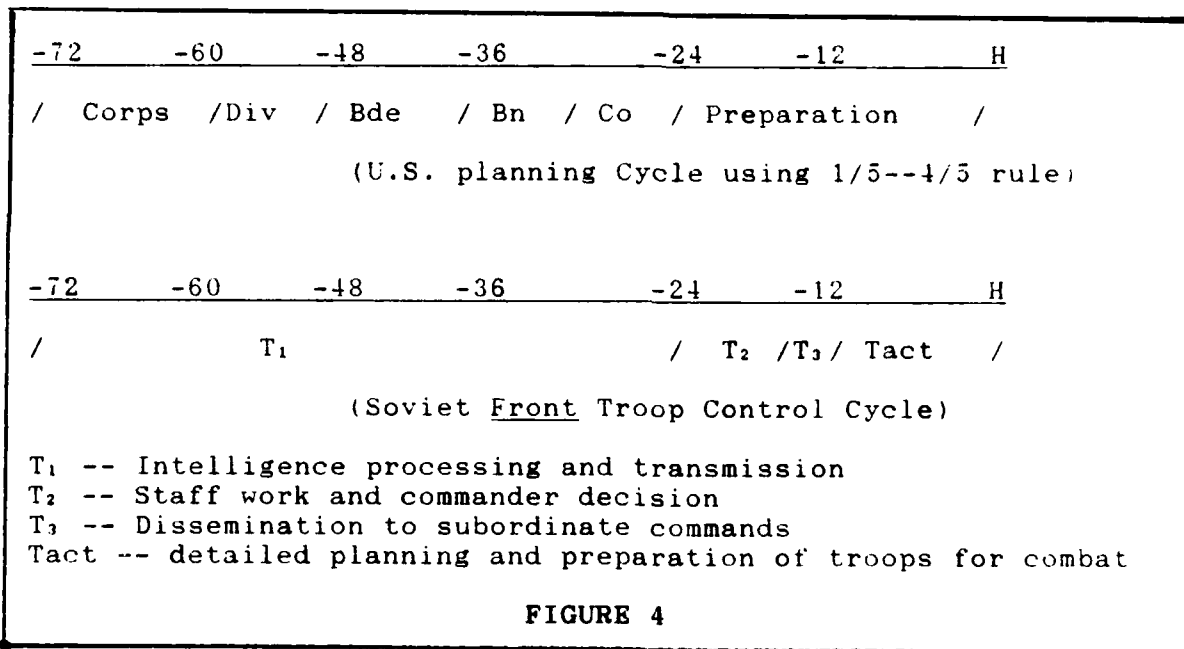
In summary, U.S. Army doctrine concerning tactical deception suggests certain general capabilities which units in the defense must possess. First, the command and staff process must insure deconfliction with higher or adjacent unit plans and facilitate internal staff coordination for proper integration of the deception plan with the tactical plan. Second, the deception operation must mask the enemy's perception of friendly unit size, activity, location, order of battle, intentions and equipment. Third, defending units must induce the enemy to miscalculate, diffusing his ability to concentrate combat power based upon notional unit dispositions. This requires detailed knowledge of the enemy and the capability to portray patterns of friendly units and activity.⁶⁴ The intent of battlefield deception is to disrupt the enemy's decision cycle by overloading his intelligence collection and analytical capabilities.

FM 100-5 cautions that the deception plan "not be so costly that it diverts resources from the main effort."⁶⁵ This is an ironic contradiction since deception is designed to complement the main effort and, therefore, requires resources. Nonetheless, our doctrine specifies four resources which enable the above-mentioned capabilities to be achieved: a trained deception element and staff; time; deception devices; and manpower and materiel. Currently, the three-man OPSEC element in a mechanized division is responsible for both OPSEC and deception. In 1987, the Army began training division and corps level deception elements at Fort Huachuca for initial duty in 1988. They provide deception planning support to execute derivatives of next higher headquarters' deception operations and execute limited deception events with organic resources such as decoys, communications deception and logistics or critical node replication. (See Annex A for detailed organization, personnel and equipment and description of duties.) It is interesting to note the corps deception cell has six less personnel than the division cell, but retains the same missions in addition to providing deception training within the corps.⁶⁶

The second resource critical to effective deception operations is time. The feasibility of a deception plan is governed by the availability of sufficient time to develop, coordinate and execute the deception and for the enemy to receive it, decipher it, make decisions and act. Certain sensors have minimum reaction times in providing the intelligence data to the enemy tactical

decision maker. Furthermore, certain threat sensors can be deceived for short periods of time, while others take longer.⁶⁷

The tactical battlefield is a time constrained battlefield, particularly with regard to decision-making. Since the result of deception is enemy action or inaction, troop control cycles and availability of time must be considered. MAJ Ray Anderson at the Army's Center for Lessons Learned compared U.S. and Soviet decision cycles.⁶⁸



For example, a U.S. division issues orders to its subordinate brigades 48 hours in advance of the operation; the Soviets plan on 12 hours. The implication of this comparison is that the U.S. division must issue orders to its brigades BEFORE the Soviets complete their intelligence processing and transmission. This argues for deception planners to develop a streamlined and

effective deception operation, assisted by detailed deception planning guides such as that designed by the U.S. V Corps.⁶⁹

Third, our doctrine emphasizes the use of specialized deception devices, normally categorized into three areas. Simulative electronic devices (SED) electronically simulate friendly radio outputs/signatures. Multispectral close combat decoys (MCCD) simulate physical and infrared signatures of select vehicles. Finally, fixed target indicators (FTI) and moving target indicators (MTI) provide the radar signature of a stationary or moving vehicle.

Fourth, the history of the 23d Special Troops proved that deception requires augmentation with materiel and personnel to provide a complete physical signature (movement, activity), assist in erecting or repositioning display equipment and provide indications of normal activities at "false" sites.⁷⁰

Soviet doctrine: Just as Clausewitz stressed the necessity of intelligence for effective deception, U.S. Army doctrine stresses a complete understanding of the enemy's doctrine, force design, tactics and decision systems. Compared to U.S. tactical deception, Soviet deception doctrine is "more pervasive.... Maskirovka appears as an integral part of the strategies and doctrines and ... tactics...."⁷¹ MAJ Tom Savoie points out in his AMSP monograph that the principal differences lie in the scale of Soviet deception efforts and the emphasis they attach to deception doctrine and practice.⁷² Soviet deception doctrine reveals certain key aspects. First, ground forces require timely,

accurate and continuous information on the enemy, terrain and weather to manage the battle. Second, Soviet reconnaissance at the tactical level stresses a continuous and aggressive search for timely, reliable, accurate and purposeful information. Finally, Soviet commanders rely upon extensive multisource reconnaissance and intelligence to make decisions.

As a result, the capabilities of the Soviets to conduct tactical deception are extensive. Their technological inferiority is counterbalanced by an experienced and effective deception attitude. At the Army and Front levels, the Soviets possess dedicated reconnaissance assets, electronic intercept and direction finding equipment, battlefield surveillance radar and long range reconnaissance or conventional warfare elements which can operate well forward of the front line of troops. Additionally, they also have organic aerial platforms for visual, photographic, signal intelligence (SIGINT) and battlefield television to aid their collection and deception efforts.

In the Soviet C2 apparatus, important decisions are "stove-piped" to single commanders at Army and Front levels. At the tactical level, plans are "rigidly" carried through. Soviets place great emphasis on scientific planning, calculations and timing. Perhaps because of their emphasis on deception, combined with their tactics and decision-making design, the Soviets are particularly vulnerable to our deception efforts. The deception plan, focusing upon techniques and vulnerabilities, must convince the Soviet commander that his predetermined course of action is

in fact the best. Therefore, a deception plan which causes him to alter his plan drastically has a low potential for success. Alternatively, deception efforts designed to confuse the enemy, slow his decision-making methods and cause loss of control are best. Conducting operations the enemy has not planned for, or invalidating enemy data bases used to make decisions such as correlation of forces are examples of effective deception design.

So the question remains: What does deception theory, history and U.S. and Soviet doctrine suggest a U.S. heavy division's capability to perform tactical deception be? Although each of these sources address deception in general terms, they suggest a modern mechanized division should have the following specific capabilities to plan, resource and conduct successful deception operations on today's battlefield:

A.Hide the real:

- 1.Reposition a brigade-sized element under radio listening silence at night 60-100 km.

- 2.Hide the true location of the reserve brigade, critical C2 nodes, logistic base, main defensive belts and kill zones.

- 3.Confuse the enemy to future capabilities and intentions (defend, delay, withdraw, offensives).

B.Portray the false:

Physically:

1. Portray a false M1/M2/M901/M113-equipped defending task force (60 vehicle +) to deceive an observer (HUMINT,elec-

tro-optical and radar) at range of less than 1 KM. Portray the thermal signature accurately enough to deceive ground based enemy thermal acquisition at ranges of 2-3 kms for 36-48 hours without significant interruption or repositioning.

2. Simultaneously replicate three minor deception sites (or combination) representing the following critical command and control nodes: division (tactical or main command post), brigade, battalion, division artillery, forward support battalion of division support command and an attack helicopter assembly area.

3. The above physical sites must also replicate the scents (food, petroleum, ammunition expenditure), audio signature (engine noises, vehicle movement, human activity, construction and weapons signatures of tanks, artillery, mortar, rocket launchers, small arms) to deceive a knowledgeable observer and replicate the passive non-electromagnetic radar cross section to active Soviet radar systems.

Electronically:

4. Replicate voice, secure voice, continuous wave, digital, burst and encrypted signal traffic in AM/FM, HF/VHF/UHF, multichannel, frequency hopping and spread spectrum modes of the above mentioned critical nodes.

5. Imitate speech patterns of subordinate units.

6. Replicate the signature of noncommunicative deception systems (radars) including reaction (shifting, shutting down) in response to Soviet targeting. These systems should be equipped with programmable computers that generate 3-6 different scenarios

(defense, delay, etc). This necessitates knowing the profiles and patterns of certain friendly units. These systems must be able to be remoted. Systems must include the capability to replicate avionic simulation.

C.Support the deception effort with organic resources.

D.Logically and procedurally plan and integrate the deception operation into the tactical plan within the normal estimate and orders planning times (48 hours to brigades).

If deception theory, history and doctrine suggest American division possess the above stated capabilities, the logical question remains: Do they?

SECTION FIVE - CONTEMPORARY ANALYSIS

This section analyzes contemporary evidence to determine the difference, if any, between what should be and what actually is a U.S. heavy division's capability to perform tactical deception successfully. Evidence from REFORGER exercises indicates substantial differences. Disappointingly, a thorough review of all REFORGER exercise directives, plans, training objectives and after-action reports (on file at CARL) at division, corps and USAREUR levels since 1980 reveals only one instance of deception. Deception annexes and comments were either omitted or listed as not applicable. In several instances deception plans were specifically referred to "under separate cover" or "limited distribution." Finally, replies from five mechanized infantry divisions, all of whom have participated in REFORGER since 1980, revealed only two instances of deception being recorded.

In one instance, the division devised and executed a comprehensive cover and deception plan designed to deceive the enemy in the deployment, defensive and offensive phases. During the deployment phase, deception operations consisted of displaying an armored battalion in another division's sector and use of dummy tanks (wood mockups) in the economy of force sector occupied by the tank-equipped divisional cavalry squadron. During the transition from the defense to the offense, the deception plan was designed to deceive the enemy of attack intentions, covertly insert an uncommitted brigade and covertly complete the relief and withdrawal of a committed brigade. Elements of the cover story, beginning nine months prior to REFORGER, included participation of the brigade in another exercise separate from REFORGER. Only the commander, assistant commanders, Chief of Staff, G2, G3 and G3 plans were aware of the plan initially. Gradually they informed seniors, and only in the final stages informed the units, soldiers and division chain of command. The unit accomplished the covert movement of forces by rail during darkness under radio listening silence. On the designated night, one battalion of the new "brigade" relieved a full-up brigade whose move out of sector was designed to show a "thinning" of forces. In reality, the division swapped brigades, and inserted a new, fresh brigade into the operational area without knowledge of the opposing commander.⁷³

Simultaneously, the division utilized divisional assets, multi-spectral decoys and corner reflection devices to portray

all three cavalry troops forward in the traditional covering force role. Reports indicate the decoys delayed a battalion for 1 1/2 hours which gained valuable time, diverted enemy units crossing a river and caused the enemy to change its attack orientation, all of which set the terms for a friendly counter-attack into the enemy flank.

Finally, using deception devices, undisclosed movement of forces to achieve economy, surprise and strict OPSEC, the division was able to hide an armored battalion for 36 hours. The enemy bypassed it at which time the armored battalion promptly counterattacked into the rear of the enemy division.

Written after-action comments of Case One are scarce. Although the unit generally pats itself on the back for the resounding success, the after-action report does not analyze the deception effort to capture lessons learned and admits the division never knew the effectiveness of their deception efforts.

Facts concerning the deception in the second instance are much more detailed, due primarily to the interests and qualification of the deception element and a BLUE-ORANGE after-action seminar which confirmed the results of the deception efforts. The deception mission stated:

... attract enemy reserve north and west of Phase Line Gap by portraying on (dates) the following deception story: 6th Brigade follows and supports 1st Brigade, passes forward at Phase Line Gap, continues the attack on the route A approach. 2d Brigade attacks in sector along axis Blue.⁷⁴

Further analysis of the operations order revealed that the deception annex included general tasks to specific units which

were restated in the operation order's tasks to subordinate units. A deception task matrix was not found.

The division, consisting of four maneuver brigades and organic aviation, was attempting to conceal the reserve by disguising its location and intended time and place of commitment, thereby causing the enemy to move its reserves away from the main attack. First, the plan included the marginally combat-effective 2d Brigade making the supporting attack. Deception would enhance its potential success by portraying the reserve in the north. Secondly, the deception plan included the attachment of a company-sized force from the 6th Brigade in reserve to the Cavalry squadron to "show" its presence in the north as a committed or task organized force while physical and signal deception portrayed the 6th Brigade command post behind the main attack brigade in the north. Third, the plan included derailing the 6th Brigade at railheads in the north and subsequently road marching them during darkness to their hide positions behind the 2d Brigade in the south. In reality, the 6th Brigade as the reserve would follow the 2d Brigade in the south and pass through them at a critical phase in the attack. The deception effort by the 6th Brigade was to begin upon arrival in the tactical assembly areas, continue throughout the weekend and continue for 28 hours after the attack commenced. Finally, the division conducted command and control flights, smoke operations and significant physical activity to portray a main attack in the north.

The after-action seminar involving Blue and Orange forces concluded that the deception effort didn't work. First, there was no one confirming whether the 6th Brigade actually set up the false electronic command node in the North. Second, the 6th Brigade actually derailed in the south. Third, severe weather prevented the electronic deception effort from occurring. Moreover, the signal equipment used was incompatible with the opposing force. Fourth, the opposing force's reconnaissance elements confirmed the locations of friendly assembly areas and units. Finally, the opposing force's plan involved portraying weakness in the north where he thought the main attack was going; therefore, he didn't believe the attacker's attempt to deceive the defender to the location of the main attack. In fact, the opposing force couldn't get its intelligence teams out, nor did the G-2 trust them.⁷⁵ In short, the deception effort really didn't affect the battle at all.

Contemporary evidence of U.S. divisions incorporating deception into tactical operations is scarce. These two instances of deception during REFORGER, taken from after-action reports and eye-witness interviews, are sketchy at best. However, the results provide conclusive evidence about our current incapability to perform tactical deception at division level in the defense.

SECTION SIX - CONCLUSIONS

Deception has never been fully accommodated to military theory.
--Barton Whaley⁷⁶

This study concludes there are significant gaps between our historically- and theoretically-derived requirements and our current capabilities to perform tactical deception, specifically in the areas of doctrine, training, resources and command and staff processes.

DOCTRINE: FM 100-5, Operations, and the draft FM 90-2, Battlefield Deception, represent major improvements in the understanding and application of tactical deception. However, our TAC-D doctrine still contains several major shortcomings:

a) Recognizing the command, control, communications and intelligence directorate at Ft. Leavenworth was not staffed to perform deception force development research, the Combined Arms Center transferred deception proponentcy to Ft. Huachuca.⁷⁷ Ft. Huachuca is not, however, the G-3 (operations) proponent, yet deception remains a G-3 (operations) staff function.

b) Doctrine for deception should be written and distributed to the field before the deception elements arrive at their units. At present, the reverse is true.

c) Deception doctrine does not clearly distinguish between OPSEC, deception and surprise, nor clarifies their relationships.

d) FM 100-5 suggests using deception in all operations. Instead, our doctrine should emphasize the consideration (not mandatory use) of deception as a combat multiplier. Deception has been attempted under the wrong conditions, but should be attempted only when adequate time for the development of the deception process exists and the expected payoff is worth it.

History proves deception for deception's sake is potentially dangerous and haphazard; repetitive use invites disclosure.

e) FM 90-2 fails to give adequate examples of tactical deception at division level. Furthermore, it does not describe in sufficient detail the nature of the future battlefield from a deception planner's viewpoint and is particularly inadequate in addressing the changing technology of both friendly and Soviet forces and intelligence capabilities.

f) FM 90-2 makes no mention of counter-deception, despite our knowledge and anticipation of sophisticated and expert Soviet deception practices. In fact, a counter-deception manual doesn't exist. A full knowledge of Soviet equipment, doctrine and tactical methodology, capabilities and weaknesses is essential if our deception plan is to succeed.

g) FC 71-100, Armored and Mechanized Division Operations, avoids the discussion of deception in general, particularly in the defense (Chapter Six). It treats deception planning as an add-on to tactical planning. Chapter 4, Section XII OPSEC, is particularly weak on deception.

h) Our doctrine does not define specific capabilities (tasks) each unit must possess to employ effective deception operations. For example, a heavy division must replicate the electronic signature of a brigade-sized force for 24 hours with organic assets. (See pages 26-28.)

Training: Training of division and corps deception elements

is just now beginning. Results will not be experienced for some time. Until then, deception training has serious shortcomings.

a) Training Support Packages (task lists) prepared by the Intelligence School for inclusion at each level of TRADOC military schools are not scheduled for submission until the end of 3d quarter, FY 88.⁷⁹ At present, deception training outside the Intelligence School at Ft. Huachuca is cursory at best.

b) Deception operations are not routinely incorporated into tactical exercises such as REFORGER. Likewise, few of the Army's wargames (First Battle, CAMMS, TACOPS) consider, credit or evaluate deception. Division staffs are not being challenged to integrate and rehearse deception with tactical planning. When deception is conducted, feedback and evaluation do not capture lessons learned or measure the effectiveness of the effort.

c) A review of all U.S. mechanized and armored division Mission Essential Task Lists or Training Guidance for 1987 revealed no mention of tactical deception. Ft. Huachuca has recommended changes to unit ARTEPs/AMTPs and submitted checklists and procedures to specifically evaluate deception operations. These have not been approved nor incorporated.

RESOURCES: The Capstone Required Operational Capabilities for the Family of Deception Devices specifies the resources which the Army plans to field between now and 1991.⁷⁹ However, deception-specific equipment systems are not currently available. Therefore, the traditional use of real equipment remains manpower and time intensive, denies commanders the use of needed combat

assets, invites exposure and unacceptable risk and does not generate the additional intelligence collection tasking and detailed analysis necessary to confuse or delay Soviet decision-making.

COMMAND AND STAFF PROCESS: Division staffs and commanders do not effectively plan and execute deception operations. FM 101-5, Staff Organization and Planning, while including deception as a consideration for commander's guidance and G-3 staff estimate, does not stress deception considerations at the beginning of the commander's (operations) estimate, course of action development or wargaming process.⁹⁰ Our most recent staff guide, FC 101-5-2, Staff Officers Handbook, omits any mention of deception in the commander's (operations) estimate.⁹¹

a) The tradeoff between staff coordination and deception security is a serious consideration. Full coordination of the commander and staff with the deception plan invites successful payoffs, but risks compromise. Conversely, a "commander only" plan involves high security, but risks poor execution.

b) The division deception element is assigned to the CEWI Battalion rather than the division HHC. This invites a continued separation between the G-2 and G-3 concerning deception. Our doctrine states that deception is a G-3 function, yet our physical organization strains that staff function.

c) FC 90-2 does not contain sufficient detailed planning and decision aides required to accelerate deception planning and resource allocation.

SECTION SEVEN - IMPLICATIONS

The Army must take timely action to close the gap between the requirements of tactical deception and its current TAC-D posture. The following recommendations correct that deficit.

DOCTRINE: First and foremost, our doctrine must openly state that deception is an important ingredient to success on the AirLand battlefield. History demonstrates the value of deception in reducing casualties, gaining territory and seizing the initiative through surprise. It should also stress deception within the context of the C3CM strategy, understanding that "synchronized with jamming, physical destruction and OPSEC, [it] can be optimized to effectively counter enemy C3 capabilities."² Furthermore, deception must consider Joint and Combined applications.

a) Ft. Huachuca, the current deception proponent, has made great strides in improving deception within the Army. However, the Army must insure that Ft. Huachuca maintains an "Army-wide" rather than parochial perspective. Currently, the program advisory council at the Combined Arms Center is the honest broker for deception issues. Since deception is a discipline which traverses most functional areas in the Army, proponentcy should be located at an Army-level coordinating center (such as the Combined Arms Center) and staffed adequately.³

b) Deception manuals (FMs or FCs) must clearly state specific deception tasks, conditions and standards which divisions must be capable of performing. This includes the capability

to portray other friendly unit capabilities. Army units must record unit profiles (signatures, patterns, unique characteristics) for each specific unit. Failure to do so increases the time required to initiate effective deception operations.

c) Similar to the corps and division deception elements, separate brigade and armored cavalry regiment force design should be considered for organic deception elements.

d) History and intelligence experts suggest divisions should only attempt deception operations (perhaps restricted to feints and demonstrations) if deception proficiency, personnel or equipment is limited.⁵⁴ Ruses and displays require expert technical assistance and sophisticated equipment.

e) The Army must prepare a counter-deception doctrine in recognition of Soviet deception prowess. Tactically, commanders who are sensitized to deception will more likely recognize deception being used against them, and be able to use the enemy's deception effort to his advantage.

f) FM 100-5 should delete the statement, "deception plans must not divert resources away from the main effort." Deception is costly and risky; the payoffs must be weighed. Deception complements the main effort rather than conflict with it.

TRAINING:

a) Accelerate the execution date schedule for fielding of the battlefield deception elements. European divisions will be outfitted by 1988; however, stateside divisions are not scheduled for manning until 1989 and the light divisions must wait until

1990/1991.⁵⁵ Also, the Army must accelerate training support packages for deception instruction in all service schools and include deception in ARTEPS and AMTPs. These, in turn, should be reflected in division mission essential task lists.

b) Successful deception operations require extensive intelligence training and support to perform deception efforts. Integration of the deception elements should foster cooperation between the G-2 intelligence support elements and the G-3 deception planners. Furthermore, our knowledge of the Soviet intelligence collection system, decision cycle and troop control procedures must be accurate to insure carefully planned, coordinated and synchronized deception efforts.

c) U.S. Army divisions must practice battlefield deception during peacetime at every opportunity (REFORGERs, National Training Center) to prepare them for war. These exercises must include a feedback loop to capture deception lessons learned and measure effectiveness. Peacetime activities "should focus upon preventing the enemy from stereotyping our operational indicators, deterring him from making war-waging decisions, and posturing him into disadvantageous warfighting predispositions."⁵⁶ Furthermore, our tactical simulations must incorporate deception when feasible.

d) New Equipment Training for primary weapons systems should include measures to employ, operate and maintain deception related equipment. Additionally, deception protective equipment must be provided with primary weapon systems.

e) The Army currently utilizes the Air Force's C³CM School for leader and operations staff officer deception training.³⁷ The Army should insure, however, this school includes Joint deception operations, and consider a combined (NATO) orientation.

RESOURCES: Fielding of the battlefield deception elements at corps and division, along with their organic support packages, will make a tremendous difference in our capability to perform tactical deception. Additionally, resources for battlefield deception should focus on future technology, specifically "Top-Down" technology.

COMMAND AND STAFF PROCESS: The Army should consider reassigning the deception elements to the division HHC rather than the CEWI Battalion. Once done, it should focus upon integrating the deception planning with the tactical planning early and continuously. Finally, the Army must develop a decision aide which assists the deception planner make rapid assessments of deception resources required to perform certain deception operations.

In conclusion, deception is no myth. The reality of the future battlefield will include highly sophisticated weapons systems with increased range and lethality, particularly in aerospace. This realization implies improved surveillance, target acquisition, artificial intelligence and more complex command and control. In order for the Army to develop a force characterized by self sufficiency, mobility, firepower, improved C³ and sustainment, deception becomes a more decisive combat multiplier.

ENDNOTES

1. Sun Tzu, The Art of War translated by S.B. Griffith, (1963): 66.

2. Department of the Army, FM 90-2, Battlefield Deception (draft) (1987): iv.

3. Barton Whaley, Stratagem: Deception and Surprise in War (1969): 195.

4. FM 90-2 (draft) (1987): 1-53.

5. Carl von Clausewitz, On War (1976): 198.

6. FM 90-2 (Draft) (1987): 1-1.

7. Ibid: 1-1.

8. Tsu, The Art Of War: 66-70.

9. Ibid: 53.

10. Clausewitz, On War: 198.

11. Ibid: 122.

12. Ibid: 117.

13. Ibid: 117.

14. Ibid: 199.

15. Ibid: 203.

16. Ibid: 205.

17. Ibid: 205.

18. Bernard Brodie, A Guide to the reading of On War in Michael Howard and Peter Paret, eds, On War (1976): 661.

19. Clausewitz, On War: 199.

20. Ibid: 202.

21. B.H. Liddell Hart, Strategy (1974): xi, xii.

22. Ibid: 212-213.

23. Ibid: 146.

24.Ibid: 336-337.

25.Ibid: 147.

26.Ibid: 6,127.

27.Ibid: 88.

28.Barton Whaley, "Toward a General Theory of Deception," Journal of Strategic Studies (March 1982): 180.

29.Ibid: 187.

30.Ibid: 188-189.

31.Whaley, Stratagem, Deception and Surprise in War: 3.

32.T.E. Lawrence, Seven Pillars of Wisdom (1935): 537.

33.Burke Wilkinson, By Sea and By Stealth in Barton Whaley's Stratagem: Deception and Surprise in War (1969): 55.

34.Seymour Reit, Masquerade (1978): 66.

35.Whaley, Stratagem, Deception and Surprise in War: 57.

36.Infantry Journal Incorporated, Infantry In Battle (1939): 107-121.

37.Charles G. Cruickshank, Deception in World War II (1980): 51,215.

38.Ibid: 215.

39.William R. Andrews, "The 23d Special Troops," (unpublished report, U.S. Army Command and General Staff College, March 1974): 2.

40.Whaley, Stratagem, Deception and Surprise in War: 248.

41.Ibid: 248.

42.Mark Kronman, "The Deceptive Practices of the 23rd Headquarters Special Troops During World War II," (unpublished manuscript, U.S. Army Materiel Systems Analysis Activity, 1978): 26-27.

43.Ibid: 2,16,18,46-48.

44.Ibid: 46-48.

45. Dwight D. Eisenhower, quoted from Papers of Dwight David Eisenhower. The Chief of Staff: 1963.

46. S.L.A. Marshall, "CCF in the Attack," (unpublished government report, Operations Research Office, Tokyo, 1951): 7-18.

47. Whaley, Stratagem, Deception and Surprise in War: 102.

48. Department of the Army, FM 100-5, Operations (1962): 50-56.

49. Whaley, Stratagem, Deception and Surprise in War: 61.

50. John Anton van Fleet, "Tactical Military Deception," (Thesis, Naval Postgraduate School, 1935): 104.

51. Ibid: 11.

52. Department of the Army, FM 100-5, Operations (1986): 6.

53. Ibid: 12.

54. FM 90-2 (Draft) (1987): 1-54.

55. Ibid: 1-54, 1-55.

56. Department of the Army, AR 525-21, Tactical Deception (TAC-D), (Including Camouflage, Countersurveillance, and Concealment) (1982): 5.

57. Tom Savore, "Tactical Deception: A Lost Art," (Advanced Military Studies Program monograph, U.S. Army Command and General Staff College, 1985): 21-23.

58. Ibid: 24.

59. FC 71-100, Armored and Mechanized Division and Brigade Operations (1984): 4-124 through 4-129, and 6-1 through 6-44.

60. FM 90-2 (Draft) (1987): 3-4.

61. Ibid: 6-6.

62. Ibid: 3-5.

63. Ibid: 3-5.

64. Ibid: 3-2, 3-3.

65. FM 100-5 (1986): 53.

66. FM 90-2 (Draft) (1987): A-1 thru A-5.

67.Ibid: 5-14.

68."U.S. Army Center for Army Lessons Learned bulletin #2-87, draft" (September 1987): 25.

69.U.S. Army 5th Corps, "Battlefield Deception Element SOP" (March 1987).

70.FM 90-2 (Draft) (1987): 5-15.

71.Department of the Army, ARTEP 34-167, Collection and Jamming Company TOE 34-167 (1980).

72.Savoie, "Tactical Deception. A Lost Art?": 30,31.

73.Extract from after-action report on REFORGER; unit designation and dates confidential.

74.Annex Q (Deception) to Infantry Division (MECH) CONPLAN 1 (sensitive in nature): 74.

75.Interview with MAJ Greg Fontineau, G-3 plans officer, 1st Infantry Division, and actual OPLAN.

76.Whaley, Stratagem, Deception and Surprise in War: 86.

77.Interview, 24 November 1987, Al Bowen, C3I directorate, Combined Arms Center, Ft Leavenworth, Kansas.

78.U.S. Army Intelligence Center and School, "Battlefield Deception Program Status," (September 1987).

79.Department of the Army memorandum, "Capstone Required Operational Capabilities (ROC) with annexes for the Family of Deception Devices (FDD)," (28 August 1987): Note -- These include physical deception devices (decoys, flash-bang, olfactory simulation, audio simulation, and electronic-reflective devices), multi-spectral close combat decoys of selected armored vehicles and systems (do not include aircraft), electronic deception devices with supporting computerization (radar, avionics, speech, and imitative deception), logistics based critical nodes and communications deception systems.

80.FM 101-5, Staff Organization and Operations (May 1984): 5-9, E-7.

81.FC 101-5-2, Staff Officers Handbook, (March 1987): Appendix D.

82.U.S. Army Intelligence Center and School, "Draft Concept Statement for Battlefield Deception," (20 February 1987).

83. Interview, 24 November 1987, LTC Hughes, Advanced Military Studies Program, and interview, 1 November 1987, MAJ Ray Anderson, Army Center for Lessons Learned, Ft. Leavenworth, Kansas. Interviews echo this recommendation.

84. Interview, 14 September 1987, LTC Hughes, Advanced Military Studies Program, Ft. Leavenworth, Kansas; and Arroyo Center deception study (per telephone conversation with Mr. Fred Freer, Rand Corporation dated 29 October 1987).

85. Ibid, U.S. Army Intelligence School, "Battlefield Deception Program Status," (September 1987): 5.

86. U.S. Army Intelligence School, "Draft Concept Statement for Battlefield Deception," (FEB 1987).

87. Interview, 24 November 1987, LTC Hughes, Advanced Military Studies Program, Ft. Leavenworth, Kansas.

ANNEX A

The new/proposed division level cells are comprised of the following:

Hq Element		03 02A VRC-47 (1) E8 97G	
Plans/Ops Section	Phys Sig Team	Elec Sig Team	
Sec Ch SWO 971A	Sec Ch E6 97G30	Sec Ch E6 98J30	
NCOIC E7 31Z40	Cbt Eng E6 12B30	Elec Spec E5 97G20	
Elec Spec E6 97G30	Cbt Arms E6	Elec Spec E4 97G10	
Ind Spec E6 96B30	Cbt Arms E6		
Vis Spec E6 96D30	Vis Spec E5 96D20		
VRC-4 (2)	VRC-47 (1)	VRC-47 (1)	
OE-25 (2)	OE-254 (1)	OE-254 (1)	
GRA-3 (2)	GRA-39 (1)	GRA-39 (1)	
3KW Gen	3KW Gen	3KW Gen	
HMMWV	HMMWV	HMMWV	
Comm Sig Team			
SEC Ch E6 97G30			
Comms Spec E5 97G20			
Comms Spec E4 97G10			
VRC-47 (1)			
OE-254 (1)			
GRA-39 (1)			
GRC-160 (1)			
3KW Gen			
HMMWV			

The Plans and Operations Section functions as the NCS for the battlefield deception element; recommends the deception objective and story; develops the division plan which presents the next higher headquarters deception story to the enemy's intelligence collection system; recommends deception events which

must be conducted to execute the deception plan; prepares the deception annex to the OPORD; monitors through coordination with appropriate elements the execution of the deception plans; recommends appropriate changes to the division deception operation; task organizes team materiel and manpower assets to execute or support the execution of division deception elements.

The communications signature team, physical signature team, and electronic signature team each interprets the deception event taskings; determines responsibilities to execute and support deception operations and the signatures which must be replicated; selects the deception devices required to replicate those signatures and the methods to employ those devices to achieve event authenticity and plausibility; deploys and employs those deception devices organic to the team to execute technically-based, single-signature events contained within the deception plan; or becomes task organized with other team assets to replicate multiple signatures for one deception event.

BIBLIOGRAPHY

GOVERNMENT PUBLICATIONS

- AR 525-21. Tactical Deception (TAC-D) (Including Camouflage, Countersurveillance, and Concealment). Washington, D.C.: Department of the Army, 1982.
- ARTEP 34-167. Collection and Jamming Company TOE 34-167. Washington, D.C.: Department of the Army, 1980.
- Bjorge, Dr. Gary J. Deception Operations: Historical Bibliography No. 5, Ft. Leavenworth, Kansas: Combat Studies Institute, January 1986.
- Department of the Army memorandum "Capstone Required Operational Capabilities (ROC) with Annexes for the Family of Deception Devices (FDD)" Fort Monroe, Virginia 28 August 1987 SECRET NOFORN.
- FC 90-2. Deception Operations Planning Guide. Ft. Leavenworth, Kansas: Combined Arms Development Activity, 1985.
- FC 90-2. Battlefield Deception (Coordinated Draft). Washington, D.C.: Department of the Army, September 1986.
- FC 101-5-2. Staff Officers Handbook. Ft. Leavenworth, Kansas: U.S. Army Command and General Staff College, March 1987.
- FM 33-1, Psychological Operations, Washington D.C.: Department of the Army, July 1987.
- FM 90-2. Tactical Deception. Washington, D.C.: Department of the Army, 1978.
- FM 90-2. Battlefield Deception (Final Draft). Washington, D.C.: Department of the Army, May 1987.
- FM 100-5. Operations Washington, D.C.: Department of the Army, 1962.
- Washington, D.C.: Department of the Army, 1986.
- FM 101-5. Staff Organizations and Operations. Washington, D.C.: Department of the Army, May 1984.
- RB 31-40. Techniques For Deception. Ft. Leavenworth, Kansas: U.S. Army Command and General Staff College, 1976.

BOOKS

- Army Times (ed.). The Tangled Web, Washington, D.C.: Robert B. Luce, Inc, 1963.
- Beaumont, Roger. Maskirovka: Soviet Camouflage, Concealment and Deception. College Station, Texas: Texas A&M Press, 1982.
- Bittman, Ladislav. The Deception Game. Syracuse, New York: Syracuse University Research Corporation, 1972.
- Brodie, Bernard. A Guide to the Reading of On War. in Michael Howard and Peter Paret, eds, On War Princeton University Press (1976).
- Churchill, Winston S. The Great War. London: George Newnes, 1933.
- Churchill, Winston S. The World Crisis. London: Butterworth, 1923.
- Clausewitz, Carl von, On War. Edited and translated by Peter Paret and Michael Howard. Princeton University Press, 1976.
- Cruickshank, Charles G. Deception in World War II. New York: Oxford University Press, 1980.
- Daniel, Donald C., and Katherine L. Hervig, eds. Strategic Military Deception. New York: Pergamon Press, 1982.
- Erfurth, General Waldeman, Surprise. (Translated by Dr. Stephen J Possony and Daniel Vilfroy) Harrisburg, Pennsylvania: The Telegraph Press, 1943.
- Garthoff, Raymond L. Soviet Military Doctrine. Glencoe, III: The Free Press, 1953.
- Gooch, John and Amos Perlmutter, eds. Military Deception and Strategic Surprise. Totowa, NJ: Frank Cass and Co., 1982.
- Herzog, Chaim. The Arab-Israeli Wars. New York: Random House, 1982.
- Heuer, Richards J. Cognitive Factors in Deception and Counterdeception. Ed. by Donald C. Daniel and Katherine L. Herbig, "Strategic Military Deception", New York: Pergamon Press, 1982.
- House, Jonathon M. Towards Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine and Organization. Fort Leavenworth, Kansas: U.S. Army Command and General Staff College, 1984.

- Infantry Journal Incorporated. Infantry in Battle. Washington, D.C.: Infantry Journal. 1939.
- Irving, David. The Trail of the Fox. New York: Avon, 1977.
- Jukes, Geoffrey. Kursk. The Clash of Armor. New York: Ballantine, 1968.
- Lawrence, T.E. Seven Pillars of Wisdom. Garden City, New York: Doubleday, 1935.
- Liddell Hart, B.H. Strategy. 2d edition New York, New York: Praeger Publishers, Inc, 1967.
- Lorillard. Stratagem of War and Counter Stratagems. Trans. from French by John W. Lang. Fort Leavenworth, Kansas: Command and Staff School, 1939.
- Maskelyne, Jasper. Magic - Top Secret. New York: Stanley Paul and Co., 1949.
- Morehead, Alan. Gallipoli. New York: Ballantine, 1984.
- Masterman, J.C. The Double Cross System. New Haven: Yale University Press, 1972.
- Owen, David. Battle of Wits: A History of Psychology and Deception in Modern Warfare. London: Leo Cooper Ltd., 1978.
- Reit, Seymour. Masquerade. New York: Hawthorn Books, 1978.
- Slim, Sir William. Defeat into Victory. London: Cassell and Company, 1956.
- Stanley, Zell. An Annotated Bibliography of the Open Literature on Deception. Santa Monica, CA: Rand, December 1985.
- Stokesbury, A. Short History of World War II. New York: William Morrow, 1980.
- Summers, Harry G. On Strategy: A Critical Analysis of the Vietnam War. Novato, California: Presidio Press, 1982.
- Sun Tzu, The Art of War. Trans by S.B. Griffith, New York: Oxford University Press, 1963.
- Tsetung, Mao. Selected Military Writings of Mao Tsetung. Peking: Foreign Language Press, 1972.
- Whaley, Barton. Strategem: Deception and Surprise in War. Cambridge, Ma: Center for International Studies, Massachusetts Institute of Technology, 1969.

Wheatley, Dennis. The Deception Planners. London: Hutchinson & Co., 1980.

Ziemke, Earl F. Stalingrad To Berlin. Washington: Office of the Chief of Military History, 1968.

PERIODICALS and ARTICLES

Bloom, Richard. "Military Surprise: Why We Need a Scientific Approach," Air University Review, (July 1984): 17-21.

Brown, J. Tuck. "Countersurveillance," Field Artillery Journal, (May-Jun 1980): 44-47.

Center for Army Lessons Learned Bulletin No. 2-87 (draft), September 1987.

Croizat, V.J. "Mislead the Enemy," Marine Corps Gazette, (Oct 1959): 52-53.

Donnelly, C.N. "The Human Factor in Soviet Military Policy," Military Review, (Mar 1985): 12-22.

Douglass, Joseph D. "Soviet Strategic Deception," Defense Science, (Aug 1984): 87-99.

Hargreaves, Reginald. "For To Deceive," Marine Corps Gazette, (Jan 1959): 35-43.

Khan, Muhammad N. "Surprise and Deception," Military Review, (Mar 1959): 100-104.

Kobrin, N. "Operational Deception," Soviet Military Review, (Apr 1981): 42-44.

Lewis, L. Kirk. "Smoke!" Field Artillery Journal, (Sep-Oct 1975): 44-45, & 51.

Love, Edmund G. "Deception on the Shurl Line," Infantry, (Jul-Aug 1983): 14-20.

Meadows, Lee. "Electronic Countermeasures Technology," Signal, (Mar 1978): 34-38.

Miller, Edwin H. "Tactical Deception in WW II," Journal of Electronic Defense, (Oct 1985): 91-98.

- Miller, Stephen W. "Camouflage and Deception," Armor, (Nov-Dec 1975): 15-20.
- Olsen, Frank. "Great Hoaxes," Infantry, (Nov-Dec 1969): 44-47.
- Park, Edwards. "A Phantom Division Played a Role in Germany's Defeat," (source unknown): 138-147.
- Riccardelli, Richard F. "Camouflage and Deception - Soviet Style," Military Review, (Feb 1979): 24-32.
- Savoie, Major Thomas A, U.S. Army. "Are We Deceiving Ourselves," Military Review, (Mar 1987): 37-45.
- Sekulich, Miloje. "Deception in War," Military Review, (Nov 1958): 92-97.
- Stevens, Jennie A and Marsh, Henry S. "Surprise and Deception in Soviet Military Thought: Paret 2," Military Review, (Jul 1982): 2-11.
- Syrett, David. "FM 90-2: Tactical Deception," Military Intelligence, (Apr-Jun 1982): 16-18.
- Szoda, W.E. "Camouflage and Deception," Armor, (Sep-Oct 1961): 48-53.
- Trainor, LTG Bernard E, "Deception," Marine Corps Gazette, (Oct 1986): 57-61.
- U.S. Army Center for Lessons Learned, bulletin #2-87 (draft) Ft. Leavenworth, Kansas, September 1987.
- Wass de Czege, Huba. "How to Change An Army," Military Review, (Nov 1984): 32-49.
- Whaley, Barton. "Toward a General Theory of Deception" Journal of Strategic Studies, (March 1982) Volume 1.
- Whaley, Barton. "Toward a General Theory of Deception," Journal of Strategic Studies, (March 1982): 177-192.

REPORTS AND UNPUBLISHED MANUSCRIPTS

- Acklin, MAJ J.M., MAJ R.J. Covalucci, MAJ M.L. Nutt, CPT J.C. Truesdell, "Analysis of Manipulative and Imitative Cover and Deception Techniques: Considerations for Tactical Employment at Division Level," A group paper written for the CGSOC professional elective R170 (Electronic Warfare), May 1974 (Call # N-8224.1334.)

- Andrews, William R. "The 23rd Special Troops," (Unpublished Report), Fort Leavenworth, Kansas: Combined Arms Research Library Document Number N8224.1335, March 1974.
- Beketov, A.A., Belokon, A.P. and Chermashentsev, S.C. "[Soviet] Ground Troops Concealment," Moscow: Military Publishing House, 1976.
- Boyce, Earl J., "Cover and Deception in World War II - Its Lessons and Doctrine Implications," Maxwell Air Force Base, Alabama: Air Command and Staff College, 1982.
- Buckles, MAJ H.I., MAJ A.M. Cunningham, MAJ C.G. Finstrom, MAJ M.V. Moser, MAJ B.J. Wyatt, CPT G.L. Youngblood, Jr. "Tactical Cover and Deception, A Matrix Model," A group paper written for Electronic Warfare CGSOC, Ft. Leavenworth, Kansas, May 1974 (Call #N-8224.1338).
- Central Intelligence Agency. "Deception Maxims: Facts and Folklore," Washington, D.C.: CIA, Apr 1980.
- Crumley, MAJ Michael H., CPT Raymond H. Dobbins, MAJ Daniel L. Hudson, MAJ Bruce C. Mahr, MAJ Everett S. McDaniel, MAJ Charles F. Plymale, "Counter Tactical Cover and Deception," A group paper prepared for CGSOC Professional Elective R170, March 1974 (Call # N-8224.1336.)
- Dwight D. Eisenhower, quoted from "Papers of Dwight David Eisenhower, the Chief of Staff," Volume IX, Baltimore: Johns Hopkins University Press.
- Engineer Camouflage School, "Operational Deception," March Field, CA: Army Air Force Camouflage School, 1945.
- Farrar, D. L., Schrieber, T.S., et Al. "Measures of Effectiveness in Camouflage," Fort Belvoir, Virginia" U.S. Army Mobility Equipment Research and Development Center, 1974.
- Grieffenberg, Hans von. "Deception and Cover Plans," Washington: Office of the Chief of Military History, 1950.
- Hacker, Charles L. "Deception, Countersurveillance, and the AirLand Battle," (Master's Thesis), Fort Leavenworth, Kansas: Command and General Staff College, 1985.
- Intelligence Department, Army Air Forces School of Applied Tactics, "Tactical Visual and Radio Deception," Orlando, Florida: Army Air Forces School of Applied Tactics, 1945.
- Kronman, Mark "The Deceptive Practices of the 23rd Headquarters Special Troops During World War II," Aberdeen Proving Ground, Maryland: U.S. Army Materiel Systems Analysis Activity, January 1978.

Marshall, S.L.A. "CCF in the Attack," Part II, Operations Research Office, Study ORO-S-34 (EUSAK), Tokyo, 1951.

NATO Report. "Study on the Effectiveness of Decoys in Their Use in Tactical Deception," Executive Summary. Brussels: NATO, 1982.

Official U.S. Army Unit History, "Headquarters, 23rd Special Troops," Fort Leavenworth Kansas, Combined Arms Research Library, Document Number M-N19115.1 (See also Document Number N17540.11)

Parrot, Evan H. "C3CM: Theory, Application and Process," (research report) Maxwell Air Force Base, Alabama: Air War College Air University, 1983.

Rand Arroyo Center, "Battlefield Deception" briefing slides dated 16 Mar 1987, received from MAJ Ray Anderson, Center for Army Lessons Learned, Ft. Leavenworth, Kansas.

----- "Training and Tactical Deception at the National Training Center," briefing slides dated 23 Jan 1987, received from MAJ Ray Anderson, Center for Army Lessons Learned, Ft. Leavenworth, Kansas.

Savoie, Major Thomas A. "Tactical Deception: A Lost Art?" School of Advanced Military Studies Monograph, U.S., Army Command and General Staff College, Fort Leavenworth, Kansas December 1985 (Document Number ADB 101 876-2).

-----, "Deception At the Operational Level of War," School of Advanced Military Studies Monograph, U.S. Army Command and General Staff College, Fort Leavenworth, Kansas, May 1986. (Document Number AD B 106 731-3)

Steck, Thomas. "Camouflage and Deception Techniques for Urban Warfare," Fort Belvoir, Virginia: U.S. Army Mobility Equipment Command, 1980.

U.S. Army Combat Developments Command, "Tactical Cover and Deception," Alexandria, Virginia: Concepts and Force Design Group, 1972.

U.S. Army Intelligence Center and School, "Battlefield Deception Program Status," Fort Huachuca, Arizona, September 1987.

----- "Draft Concept Statement for Battlefield Deception," Fort Huachuca, Arizona, 20 February 1987.

----- "Interim Operational Concept for Battlefield Deception,"

Fort Huachuca, Arizona: Battlefield Deception Office, May 1987.
U.S. Army 5th Corps, "Battlefield Deception Element SOP" Frankfurt, Germany, 7 March 1987.
Vogel, Duane. "Final Report: Helicopter Detectability Test," Fort Monroe, Virginia: U.S. Army Training and Doctrine Command, 1975.
Van Fleet, John Anton. "Tactical Military Deception," Thesis conducted at the Naval Post Graduate School, Monterey, California, September 1985.
Wass de Czege, Huba. "Understanding and Developing Combat Power," (Unpublished Paper), 1983.

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